12 June 2008

(AE-17J)

Douglas Harris, General Manager
Veolia ES Technical Solutions, L.L.C.
7 Mobile Avenue
Sauget, Illinois 62201

Dear Mr. Harris:

As you know, on February 22, 2008, the U.S. Environmental Protection Agency issued to Veolia ES Technical Solutions, L.L.C. (Veolia) a Clean Air Act Section 114 Request for Information (Section 114 Request). The Section 114 Request required Veolia to conduct on each of its three hazardous waste incinerators a comprehensive performance test pursuant to the National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors, 40 C.F.R. Part 63, Subpart EEE (HWC MACT). Following discussions with Veolia on March 13 and April 25, 2008, EPA, on June 5, 2008, revised the Section 114 Request to require performance tests to measure six metals (arsenic, beryllium, cadmium, chromium, lead and mercury) only. On May 22, 2008, EPA received Veolia's performance test plan for each of the three incinerators. This letter provides EPA's comments on the test plans. If Veolia has already provided any of the information that EPA requests below, please simply identify its location in the performance test plans.

EPA's comments in this letter are solely for the purpose of conducting a performance test consistent with the HWC MACT. If you intend to rely on the performance test to establish a mercury system removal efficiency for your RCRA permit, you should consult with the RCRA permitting authority before finalizing your test plans.

Pursuant to 40 C.F.R. § 63.1207(f)(1)(i)(A), the test plans must include an analysis of each feedstream, including hazardous waste, other fuels, and industrial furnace feedstocks, as fired. The analysis must include the heating value, and concentrations of ash, semivolatile metals (SVMs), low volatile metals (LVMs), mercury, and total chlorine (organic and inorganic). EPA recognizes that Veolia may have waste profiles for several hundred - if not several thousand - hazardous wastes that it receives during the course of its business. However, EPA requests that Veolia include in the test report the waste profile

(with the information listed in 40 C.F.R. § 63.1207(f)(1)(i)(A)) for each waste that Veolia burns during the performance test.

Pursuant to 40 C.F.R. § 63.1207(f)(1)(iii)(F), the test plans must include a detailed engineering description of the HWC's automatic waste feed cut off (AWFCO) system. In section 2.8.1 of the test plans, Veolia stated that it tests the AWFCO system biweekly. Pursuant to 40 C.F.R. § 63.1206(c)(3)(vii), Veolia must test the AWFCO system and associated alarms at least weekly to verify operability, unless you document in the operating record that weekly inspections will unduly restrict or upset operations and that less frequent inspection will be adequate. Please submit a copy of the required operating record documentation and summarize that information in section 2.8.1 of the test plans.

Regarding Table 2-3, EPA notes that two spray dry adsorber (SDA) operating parameter limits (OPLs) are missing: the minimum sorbent feed rate; and minimum carrier fluid flow rate or nozzle pressure drop. On April 11, 2008, Veolia submitted average lime slurry flow rates in gallons per minute and ratios of average chlorine feed rates to average lime slurry flow rates from hydrogen chloride/chlorine gas ($HCl/Cl_2$) tests in January 1993 (Unit 2), November 1996 (Unit 3), and December 1995 (Unit 4). However, the average slurry flow rate does not include the amount of sorbent per gallon of water. Please revise Table 2-3 to include the average lime slurry flow rate in units of pounds of sorbent per gallon of slurry. Further, please revise Table 2-3 to include the minimum carrier fluid flow rate or nozzle pressure drop. Veolia may request an alternative monitoring parameter to allow it to make use of other options, such as an alternative monitoring procedure that would establish a minimum specific gravity for the lime slurry. Veolia's use of such alternative monitoring procedure would be subject to EPA's approval.

For Incinerator #4, EPA notes that two carbon injection system OPLs are missing from Table 2-3: the minimum carbon injection rate; and the minimum carrier fluid flow rate or nozzle pressure drop. Please revise Table 2-3 to include these OPLs.

Pursuant to 40 C.F.R. § 63.1209(o)(4)(ii), Veolia must establish an OPL on the minimum carrier fluid (gas or liquid) flow rate or nozzle pressure drop based on manufacturer's specifications. Please revise Table 2-3 to include this OPL.

Veolia installed and operates a HCl continuous emission monitor (CEM) even though the HWC MACT does not require Veolia to install, operate, calibrate, and maintain a HCl CEM. Table 2-3 states the HCl cut off limit is 100 parts per million by Volume

(ppmV) even though the $HCl/Cl_2$ standards in 40 C.F.R. §§ 63.1203(a)(6) and 63.1219(a)(6) are 77 ppmV and 32 ppmV, respectively. Please revise Table 2-3 to reflect the $HCl/Cl_2$ standards in 40 C.F.R. §§ 63.1203(a)(6) and 63.1219(a)(6).

Pursuant to 40 C.F.R. § 63.1207(f)(1)(iii)(H), the test plans must include a description of the design, operation, and maintenance practices of any stack gas monitoring and pollution control monitoring systems. In section 2.6 of the test plans, Veolia states, "A CEM performance test and quality assurance program has been implemented in accordance with Performance Specifications for Continuous Emission Monitoring of Carbon Monoxide and Oxygen for Incinerators, Boilers and Industrial Furnaces Burning Hazardous Waste, as defined in 40 CFR 266, Appendix IX, Section 2.1." Pursuant to 40 C.F.R. § 63.1209(d)(2), Veolia must comply with the quality assurance procedures for CEMS prescribed in the appendix to the HWC MACT. Even though Section 2.1 of 40 C.F.R. Part 266, Appendix IX, and the Appendix to the HWC MACT may be very similar, please revise section 2.6 of the test plans to cite to the Appendix to the HWC MACT, and ensure that the plan reflects all requirements of the HWC MACT Appendix.

Pursuant to 40 C.F.R. § 63.1207(f)(1)(vi), the test plans must include a detailed test protocol, including, for each hazardous waste identified, the ranges of hazardous waste feed rate for each feed system, and, as appropriate, the feed rates of other fuels and feedstocks, and any other relevant parameters that may affect the ability of the HWC to meet the emission standards. Please supplement section 4.6 of the test plans to address the following questions:

- What wastes does Veolia plan to burn during each test run, and at what feed rates?
- For each waste feed system, at what rates will Veolia feed the waste during each test run?
- What are the feed rates of SVM, LVM, and mercury for each test run? Veolia states in section 4.4 that the spiking rates will be 40-45 lbs LVM /hr, 60-65 lbs SVM/hr and 0.001-0.002 lb mercury/hr. What will the total SVM, LVM and mercury feed rates be?
- What are the planned pumpable and total waste feed rates during the performance test?

Pursuant to 40 C.F.R. § 63.1207(f)(1)(vii), the test plans must include a description of, and planned operating conditions for, any emission control equipment that will be used. The heading for section 4.6 of the test plans suggests that it provides the required information for 40 C.F.R. § 63.1207(f)(1)(vii).

However, section 4.6 does not provide any information pertaining to the emission control equipment. Please correct the heading for section 4.6 of the test plans.

Section 2.5 of the test plans provides a detailed description of the air pollution control equipment. For Incinerators #2 and #3, please supplement section 2.5.1.1 to identify the sorbent feed rate. Section 2.5.1.2 notes that the SDA cools the combustion gases from between 1600 degrees Fahrenheit (°F) and 2000°F to between 300°F and 500°F. Please supplement section 2.5.1.2 to include the flow rate of quenching water. For Incinerator #4, please supplement section 2.5.1.2 to identify the sorbent feed rate. Section 2.5.1.3 notes that the SDA cools the combustion gases from between 600°F and 800°F to between 300°F and 500°F. Please supplement section 2.5.1.3 to include the flow rate of quenching water.

Regarding Veolia's metals extrapolation method, EPA is pleased to see a commitment to limit the maximum feed rate for any one category to 10 times the spiked feed rate during the performance tests. In order to conduct performance tests under operating conditions that represent the extreme range of normal conditions - as 40 C.F.R. §§ 63.7(e)(1) and 63.1207(g) require - Veolia must feed each metal group (i.e., mercury, LVM, and SVM) at no less than the highest 12-hour rolling average during the previous 5 years.

Pursuant to 40 C.F.R. § 63.1207(f)(1)(x), because Veolia is requesting to extrapolate metal feed rate limits from the performance test levels under 40 C.F.R. § 63.1209(l)(1)(v) and (n)(2)(vii), the test plans must include:

> (A) A description of the extrapolation methodology and rationale for how the approach ensures compliance with the emission standards;
> (B) Documentation of the historical range of normal (i.e., other than during compliance testing) metals feed rates for each feedstream; and
> (C) Documentation that the level of spiking recommended during the performance test will mask sampling and analysis imprecision and inaccuracy to the extent that the extrapolated feed rate limits adequately assure compliance with the emission standards.

40 C.F.R. § 63.1209(l)(1)(v) states:

> In lieu of establishing mercury feed rate limits as specified in paragraphs (l)(1)(i) through (iv) of [section 63.1209], you may request as part of the performance test plan under §§ 63.7(b) and (c) and §§ 63.1207 (e) and (f) to

use the mercury feedrates and associated emission rates during the comprehensive performance test to extrapolate to higher allowable feedrate limits and emission rates. The extrapolation methodology will be reviewed and approved, as warranted, by the Administrator. The review will consider in particular whether:

(A) Performance test metal feedrates are appropriate (*i.e.*, whether feedrates are at least at normal levels; depending on the heterogeneity of the waste, whether some level of spiking would be appropriate; and whether the physical form and species of spiked material is appropriate); and
(B) Whether the extrapolated feedrates you request are warranted considering historical metal feedrate data.

40 C.F.R. § 63.1209(n)(2)(vii) provides the requirements for requesting approval to extrapolate to higher allowable feedrate limits and emission rates for SVMs and LVMs.

To complete the required information for 40 C.F.R. § 63.1207(f)(1)(x)(A), please supplement section 4.5 to identify the compounds that Veolia will use to spike for SVM, LVM, and mercury. During a May 2006 LVM performance test on Incinerator #3, the average LVM emission concentration was 249.5 micrograms per dry standard cubic meter at 7 percent oxygen (µg/dscm at 7% $O_2$). The arsenic concentration was 230 µg/dscm at 7% $O_2$. Consequently, even though EPA has usually preferred that hazardous waste incinerator owners use a chromium compound as a surrogate for LVMs, in this instance EPA believes it would be appropriate for Veolia to use either an arsenic compound or a mix of an arsenic compound and a chromium compound to spike the waste feed with LVMs. Please revise the test plan to identify the compound(s) that Veolia will use as a surrogate for LVMs to spike the waste. Further, please describe how Veolia will account for mercury, SVMs, and LVMs that are native to the waste that Veolia incinerates during the test runs when setting the spiking rates.

For Incinerators #2 and #3, Table 4-2 states that the historical range of normal mercury, LVM, and SVM feed rates are 0.07 lb/hr, 206 lbs/hr, and 156 lbs/hr, respectively. EPA does not know whether these feed rates represent annual averages or one-time highest feed rates for each metal group. Veolia is asking to extrapolate the mercury feed rate from approximately 0.002 lb/hr to 0.02 lb/hr; the LVM feed rate from approximately 45 lbs/hr to approximately 450 lbs/hr; and the SVM feed rate from approximately 65 lbs/hr to 650 lbs/hr. For Incinerator #4, Table 4-2 does not include the historical range of normal mercury, LVM, and SVM feed rates. Veolia is asking to extrapolate the mercury feed rate from approximately 0.02 lb/hr to 0.10 lb/hr; the LVM

feed rate from approximately 45 lbs/hr to approximately 450 lbs/hr; and the SVM feed rate from approximately 65 lbs/hr to 650 lbs/hr. To complete the required information for 40 C.F.R. § 63.1207(f)(1)(x)(B), please supplement section 4.5 to answer the following questions for each incinerator:

- What is the highest 12-hour average mercury feed rate during the past 5 years?
- What is the highest 12-hour average LVM feed rate during the past 5 years?
- What is the highest 12-hour average SVM feed rate during the past 5 years?

In Table 4-2 of the test plans for Incinerators #2 and #3, Veolia states that the expected mercury system removal efficiency is 85 percent. Considering that neither Incinerator #2 nor Incinerator #3 have a carbon injection system, please explain how Incinerators #2 and #3 will demonstrate a mercury system removal efficiency of 85 percent.

To complete the required information for 40 C.F.R. § 63.1207(f)(1)(x)(C), please supplement section 4.5 to include Veolia's estimated mercury, LVM, and SVM concentrations at the stack during the performance tests. Please document whether the level of spiking recommended during the performance test will mask sampling and analysis imprecision and inaccuracy to the extent that the extrapolated feed rate limits adequately assure compliance with the emission standards.

Pursuant to 40 C.F.R. § 63.1207(f)(1)(xii), the test plans must include documentation justifying the duration of system conditioning required to ensure the combustor has achieved steady-state operations under performance test operating conditions, as provided by 40 C.F.R. § 63.1207(g)(1)(iii). Please supplement section 4.7 of the test plans to describe why Veolia believes that 15 minutes is sufficient to achieve steady-state operations. Further, please describe how Veolia will ensure that it will operate at steady-state throughout the performance tests.

Pursuant to 40 C.F.R. § 63.1207(f)(1)(xxiv), if a hazardous waste incinerator is equipped with a particulate matter (PM) control device other than a wet scrubber, baghouse, or electrostatic precipitator, the test plans must include:

(A) Documentation to support the OPLs you establish for the control device, as required by 40 C.F.R. § 63.1209(m)(1)(iv)(A)(4); and

(B) Support for the use of manufacturer specifications if you recommend such specifications in lieu of basing operating limits on performance test operating levels, as required by 40 C.F.R. § 63.1209(m)(1)(iv)(D).

Pursuant to 40 C.F.R. § 63.1209(n)(3), Veolia must establish OPLs on the PM control device as specified by 40 C.F.R. § 63.1209(m)(1). As promulgated on September 30, 1999, 40 C.F.R. § 63.1209(m)(1)(ii) required the owner of an incinerator equipped with a fabric filter to establish a limit on the minimum and maximum pressure drop across each fabric filter cell based upon the manufacturer's specifications. On May 14, 2001, EPA withdrew and reserved 40 C.F.R. § 63.1209(m)(1)(ii), but did not simultaneously remove the references to fabric filters in 40 C.F.R. §§ 63.1207(f)(1)(xxiv) and 63.1209(m)(1)(iv). As of this date, EPA has not re-promulgated this requirement or promulgated a substitute for it. Until EPA promulgates fabric filter monitoring requirements in the HWC MACT, approval criteria for monitoring a fabric filter remain unclear.

On Table 2-3 of each test plan, Veolia states that the stack gas opacity cut off for the AWFCO system is opacity greater than 10 percent. Further, Veolia states that the fabric filter pressure drop cut offs are pressure drops less than 2 inches water column (" $H_2O$) or greater than 10" $H_2O$. EPA believes that Veolia is requesting that Veolia monitor the stack gas opacity and the pressure drop across each fabric filter as representative and reliable indicators of the fabric filters' operating efficiency. At this time, we are not aware of other fabric filter operating parameters that are more representative and reliable. Therefore, EPA approves Veolia's request to establish alternative OPLs for monitoring the stack gas opacity and the pressure drop across each fabric filter and to establish OPLs for this parameter pursuant to 40 C.F.R. § 63.1209(m)(1)(iv).

Pursuant to 40 C.F.R. § 63.1207(f)(1)(xxiv), because each of Veolia's hazardous waste incinerators is equipped with a dry scrubber to control HCl/$Cl_2$, the test plan must document key parameters that affect adsorption and, if you elect not to specify and use the brand and type of sorbent used during the performance tests, the limits you establish for those parameters based on the sorbent used during the performance test, as required by § 63.1209(o)(4)(iii)(A). Please add a new section to the test plan to address this requirement.

Item #5 of the June 5, 2008, Section 114 Request requires Veolia to collect composite samples of all waste streams that it feeds to the incinerator during the performance tests on each incinerator. Further, Item #5 requires Veolia to analyze the

composite samples for mercury, arsenic, beryllium, chromium, cadmium, lead, ash, and total chlorine. Pursuant to 40 C.F.R. § 63.1207(f)(1)(xxvii), the test plans must include such other information as the Administrator reasonably finds necessary to determine whether to approve a performance test plan. The test plans for Incinerators #2 and #3 do not include the quality assurance procedures for the sampling and analysis of the waste feedstreams. Please revise the test plans to include the same degree of quality assurance detail for the waste, spike materials and fuel that the test plans include for emissions measurement.

40 C.F.R. § 63.1207(g)(1)(i)(A) does not require Veolia to feed chlorine at its normal or higher rate during the SVM and LVM test. However, 40 C.F.R. § 63.1209(n)(4) requires Veolia to establish a SVM/LVM maximum total chlorine and chloride feed rate OPL. Thus, EPA believes that Veolia must establish feed chlorine at its normal or higher 12-hour rolling average feed rate. (On September 30, 1999, EPA provided the rationale for normal or higher chlorine feed rates during the SVM and LVM tests. See 64 Fed. Reg. 52946.)

Pursuant to 40 C.F.R. § 63.1207(g)(1)(i)(B), the ash feed rate during the SVM and LVM performance test must be normal or higher. Please supplement the test plans to include the highest 12-hour rolling average ash feed rate during the previous 5 years and the planned feed rate for the SVM and LVM performance test.

After you have had an opportunity to review these comments in detail, we would like to recommend that we have a teleconference between EPA, Veolia and its consultant. Please direct any questions that you have regarding this letter to Charles Hall, of my staff, at (312) 353-3443.

Sincerely yours,

/s/ George Czerniak

George Czerniak, Chief
Air Enforcement and Compliance Assurance Branch

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